SHARP

Quick Reference Guide: AR-M207, M165, M162

Description: Features & Options

Why the AR-M207, M165, M162

The AR-M162 and AR-M207 Digital IMAGERs™ Document Systems deliver advanced performance for today's small office—all in a value-driven, multifunction copier. With a 500-sheet paper capacity, (250 sheets on AR-M162), 100-sheet bypass tray, standard 600 dpi host-based printing, and auto duplexing (AR-M207), these compact performers keep pace with even the most demanding offices.

The AR-M162 and AR-M207 Digital IMAGERs can support full-color ledger-size PC scanning that enables users to share or archive documents with just a few keystrokes. With optional electronic sorting and a speed-enhanced printing system, the Sharp AR-M162 and AR-M207 IMAGERs can easily help grow clients' businesses.

Features

- 5-line LCD display
- Versatile paper handling
- Optional electronic sorting
- Offset stacking
- **AR-M162:** 16-288 MB memory
- **AR-M207:** 32-304 MB memory
- 600 dpi host-based PC printing system
- Full color 600 x 600 dpi PC scanning
- Sharpdesk integrated Desktop Document Management Software
- Button Manager Utility
- Standard IEEE 1284 parallel and USB 1.1
- Optional Super G3 Facsimile

The AR-M162/M207 Digital IMAGERs™

AR-M207

AR-M162

Flexible Functionality and Advanced Versatility

➤ Integrated Color PC Scanning
➤ Advanced Network Connectivity
➤ High-Quality Digital Copying
➤ Super Fast, Super G3 Faxing

The Card Shot feature conveniently copies both sides of an ID or insurance card onto a single sheet of paper.

The user-friendly control panel makes the AR-M162/M207 IMAGERs simple to operate.

Fax Reception Light flashes to alert you when a new fax has arrived.

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Quick Reference Guide: <u>AR-M207, M165, M162</u>

Pre-Setup: Tools, MSDSs, & Admonitions

Equipment & Service Documentation

Description	Part Number
AR-M207, M165, M162 Service Manual	SM-AR-M207 Code: 00ZARM207/A1E
AR-M207, M165, M162 Circuit Diagram	CD-AR-M2007 Code: 00ZARM207/C1/
AR-M207, M165, M162 Parts Guide	PG-AR-M207 Code: 00ZARM207/P1E
***AR-EB9** Service Manual Digital Laser Copier Printer Option Dual Function Board	SM-AR-EB9 Code: 00ZAREB9//A1E
AR-FX11 Service Manual Fax Expansion Kit	SM-AR-FX11 Code: 00ZARFX11/A1E
***AR-NB3** Service Manual Digital Copier/Printer/Multifunctional System Option	SM-AR-NB3 Code: 00ZARNB3//A1E
***AR-SP6N, RP6N** Service Manual Single Pass Feeder (SPF) Reverse Single Pass Feeder (RSPF)	SM-AR-SP6N Code: 00ZARSP6N/A1E

* Optional equipment

Material Safety Data Sheets (MSDSs)*

Product Code	Description	MSDS No.
AR-202MT	Toner Cartridge (Black)	F-01211
AR-202MD	Developer	F-31211

* Download MSDSs at **http://www.sharp-service.com**

Toolbox Basics

Mechanical

- Screwdriver, Phillips #2
- Screwdriver, Flat #1
- Wrench, 1.5mm Hex head
- Feeler gauges

Electrical

- Voltmeter
- ESD wrist or ankle strap
- Approved surge suppressor
- 30x lighted viewing device

Miscellaneous

- Clean, soft, lint-free cloths
- Alcohol

Laser Admonition

For your protection, do not remove protective covers or bypass safety interlocks.

Electrical/Electronic Component Admonitions

WARNING: Electrical hazard. Employ proper precautions when working with high-voltage electrical equipment.

CAUTION: Improper handling of electronic components can damage the equipment.

E S D Properly ground and wear an electro-static device (ESD) on your wrist or ankle when working with electronic modules. Similarly, use anti-static bags to protect electronic components during storage or shipping.

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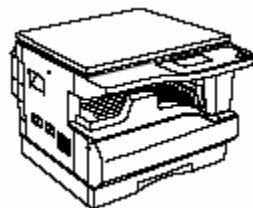
Configuration

AR-M162, M165
(Copier/Printer/Scanner Model)

16 PPM Black & White

Configuration

AR-M207
(with the RSPF installed)

20 PPM Black & White

AR-M162/AR-M165   AR-M207

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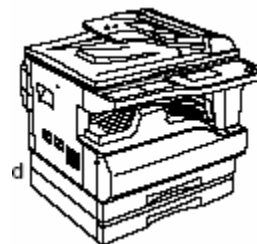
Quick Reference Guide: AR-M207, M165, M162

Configuration with Common Options

COMMON OPTIONS

AR-M162 IMAGER

AR-SP6N
40-Sheet Single Pass Feeder

AR-VR5 Document Cover
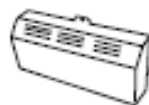(Standard on AR-M162 only)

AR-M167 IMAGER

AR-D24 250-Sheet
Paper Feed Unit

OR

AR-D25 250-Sheet x 2
Paper Feed Unit

AR-NB3 Network Expansion
Kit with PCL Network Printing
and Network Scanning
(requires AR-EB9)

AR-FX11 Fax
Expansion Kit

AR-EB9 Electronic Sorting Kit (includes
Card Shot and USB 2.0)

AR-TR4 Job
Separator Tray

AR-SM5 256 MB
Memory Expansion for
AR-EB9

AR-MM9 8 MB
Memory Expansion for
AR-FX11

AR-PK1N Postscript PS3 Expansion Kit

AR-M207 IMAGER

AR-VR5 Document Cover
(Standard on AR-M162 only)

OR

AR-RP6N 40-Sheet Reversing
Single Pass Feeder

AR-M207 IMAGER

AR-D24 250-Sheet
Paper Feed Unit

OR

AR-D25 250-Sheet x 2
Paper Feed Unit

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Consumable Items

**Supply System Table
(USA/Canada)**

NO	Name	Content		Life	Product name	Remark
1	Toner cartridge(Black) <With IC>	Toner (Toner: Net Weight 537g) Vinyl bag	x10 x10	160K	AR-202MT	Life setting by A4 6% document
2	Developer	Developer (Developer : Net Weight 400g)	x10	500K	AR-202MD	
3	Drum kit	Drum Drum fixing plate	x1 x1	50K	AR-202DR	

Power Source

Voltage	100V, 110V, 120V, 127V, 230V(200V), 240V
Frequency	50/60Hz
Power switch	One power source

Power Consumption

Max. Power consumption	1200W
Power consumption in operation	550W
Power consumption when standby	10W

*Must conform to energy saving laws, international standards, and company regulations.

Environment Support

Support program	International Energy-Star
	Nordic swan
	Canadian environment selection program
	Blue angel
	eco-label
	Green purchase network
	Green purchase law
	Energy-saving law
	Green products

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Base Engine

AR-M207, AR-M162 / M165	Desk-top

Base Engine

Paper size	AR-M207	AR-M162 / M165
A4/8.5" x 11"	20ppm	16ppm
A4R/8.5" x 11"R	14/15ppm	12ppm
A5/5.5" x 8.5"	20ppm	16ppm
B5/16K	20ppm	16ppm
B5R/16KR	16/15ppm	14ppm
8.5" x 13"	12ppm	11ppm
B4/8.5" x 14	12ppm	10ppm
A3/11" x 17"/8K	11/10/11ppm	9/9/10ppm

Print Performance

	AR-M207	AR-M162 / M165
GDI Print*	12ppm	12ppm
SPLC Print	20ppm(ROPM)	16ppm(ROPM)

* GDI print measurement conditions: Host PC/CPU = 500 700MHz or above, Windows 98SE, Data = TestChart-B1.doc, USB1.1, when supporting A4/Letter.
Measurement method: With setting to 11, from completion of the first paper exit to completion of the 11th paper exit

Copy Speed (CPM)

	AR-M207			AR-M162 / M165		
	Normal	Reduction	Enlargement	Normal	Reduction	Enlargement
A4/8.5"x11"	20	20	20	16	16	16
A4R/ 8.5"x11"R	14/15	14/15	14/15	12	12	12
A5/5.5"x8.5"	20	20	20	16	16	16
B5/16K	20	20	20	16	16	16
B5R/16KR	16/15	16/15	16/15	14	14	14
8.5x13"	12	12	12	10	10	10
B4/8.5"x14	12	12	12	10	10	10
A3/11"x17"/ 8K	11/10/11	11/10/11	11/10/11	9/9/10	9/9/10	9/9/10

First Copy Time

First copy time	7.2sec or less

* Measurement conditions: When feeding paper of A4/8.5" x 11" from the main unit tray, polygon rotation state

Main unit first stage	7.2sec or less
Main unit second stage	8.5sec or less
Option paper feed first stage	9.5sec or less
Option paper feed second stage	10.5sec or less
Manual tray	7.5sec or less

First copy time from the document feed unit

SPF	12sec or less
RSPF	12sec or less

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Specifications (cont'd)

Base Engine (cont'd)

Job Speed

	AR-M207	AR-M162 / M165
S → S	20 Sheets/min(100%)	16 Sheets/min(100%)
S → D	9 Sheets/min(45%)	-
D → D	8 Sheets/min(40%)	-

* S → S(from No. 1 cassette): 10 sheets of A4/8.5" x 11" document, 5 copies

* S → D(from No. 1 cassette): 10 sheets of A4/8.5" x 11" document, 5 copies

* D → D(from No. 1 cassette): 10 sheets of A4/8.5" x 11" document(20 surfaces), 5 copies

Continuous Copying

Max. number of multi copy	1-999copies(Can be changed to 1-99 in key operator programs)

Engine Composition

Photoconductor type	OPC(Organic Photo Conductor)
Photoconductor drum dia.	30mm
Process cleaning	Blade
Copy lamp	Cold cathode fluorescent lamp(CCFL)
Developing system	Dry 2-component magnetic brush development
Charging system	Saw teeth charging
Transfer system	(+)DC scorotron
Separation system	(-)DC scorotron
Fusing system	Heat roller
Process speed	88mm/s

Engine Resolution

Resolution	Reading: 600 x 300dpi1(600 x 600dpi selectable) Writing: 600x600dpi
Gradation	Reading: 256 gradation, Writing: 2 gradations

Specifications (cont'd)

Scanner Section

Document Table

Max. Document size	A3/11"x17"	
Scan area	297 x 431mm	
Document reference position	Left back corner reference	
Detection(Platen)	Available	
Detection size	Automatic detection(supported by each unit for inch/AB)	
	AB system:	A3, B4, A4, A4R, A5,
	Inch system:	11" x 17", 8.5" x 14", 8.5" x 11", 8.5" x 11"R
OR guide display	Left back corner (Print display)	Document reference position " ⟹ "
	Left side document guide	(From the back) [Postal card] · [A6] · [B6] · [5-1/2] · [A5] · [B5] · [A4/A5] · [8-1/2] · [B4/B5] · [11] · [A3/A4]
	Left side document guide	(From the left) [5-1/2] · [A5] · [B5] · [A4/A5] · [8-1/2] · [B5] · [11] · [A4] · [13] · [14] · [B4] · [A3] · [17]
	Back side document guide(Bookmark)	B5(Vertical), A4(Vertical), bookmark at 8" - 1/2" position(From the left)

AB and inch can be switched to each other by SIM.

SPF/RSPF

Type	SPF/RSPF	Single/Duplex automatic document feeder unit
Scan speed	Single surface	When copying: 20-sheet model/20 sheets/min 16-sheet model/16 sheets/min When FAX: 23 sheets/min
Document reference position	Center	
Document size	AB system: A3-A5 Inch system: 11" x17" - 5.5" x 8.5"	
Document weight	56 - 90g/m²(15 - 24lbs) when duplex: 56 - 90g/m²(15 - 24lbs)	
Document load capacity	40 sheets(30 sheets of 90g/m² loadable)(30 sheets for B4/8.5" x 13" or above)40 sheets of 4mm thickness or below loadable	
Inhibited kinds of documents	Transparency film, Perforated sheets, photo, catalogue	
Detection	Avaiable	
Detection size *	Automatic detection(A kind of detection unit is used by switching the software destination.)	
	AB system:	A3,B4,A4,A4R,B5,B5R,A5
	Inch system:	11" x 17", 8.5" x 14", 8.5" x 11", 8.5" x 11"R, 5.5" x 8.5"
Document tray guide display	Tray center(Marked)	Document insertion direction " → "document face-up set command
	Document guide(Marked)	(From the center) A3/A4, 11", B4/B5, 8.5", A4R/A5, B5R, A5R, 5.5"

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Specifications (cont'd)

Operation Panel

Display Device

Type	LCD display with backlight
System	FSTN
Display dot number	119 x 73 dots
LCD drive display area	78.867 x 41.653 mm
LCD brightness adjustment	Available
Type	7 segment LED(x 3)

Characters used in LCD

Kind	ROM font
Dot	6(W)x 12(H)

Key

Mode selection area	Copy mode key(mode LED) Print mode key(mode LED/ONLINE LED/DATA LED) Scanner mode key(mode LED) Fax mode key(mode LED/LINE LED/DATA LED)
Basic input section	Start key/LED Numeric keys * AUDIT CLEAR key # Read End key Clear/Stop key Interrupt key All Clear key
LCD display section	Exposure key(Color mode/Program) Paper key(Resolution/Program) Zoom key(Address) Auto% key(Format/Broadcast) Duplex key(Duplex scan) Sort(Document size) Special function key Fax status key Arrows key OK key Back key LINE STATUS indicator (when the fax option is installed)
Panel language support	English(Factory setting) For the languages other than English, the key sheet is packed together with the machine or manual kit. Attach it when installing.

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Operation Panel (cont'd)

Controller Board

CPU	H8S2321(16bit 1-chip microprocessor, 19.6608MHz)
Memory	16MB(Single surface model) 32MB(Duplex surface model)

Interface

IEEE1284 Parallel	1 port
USB1.1	1 port
USB2.0	1 port(Standard/option area)
Ethernet	1 port(Network box)

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External Appearance
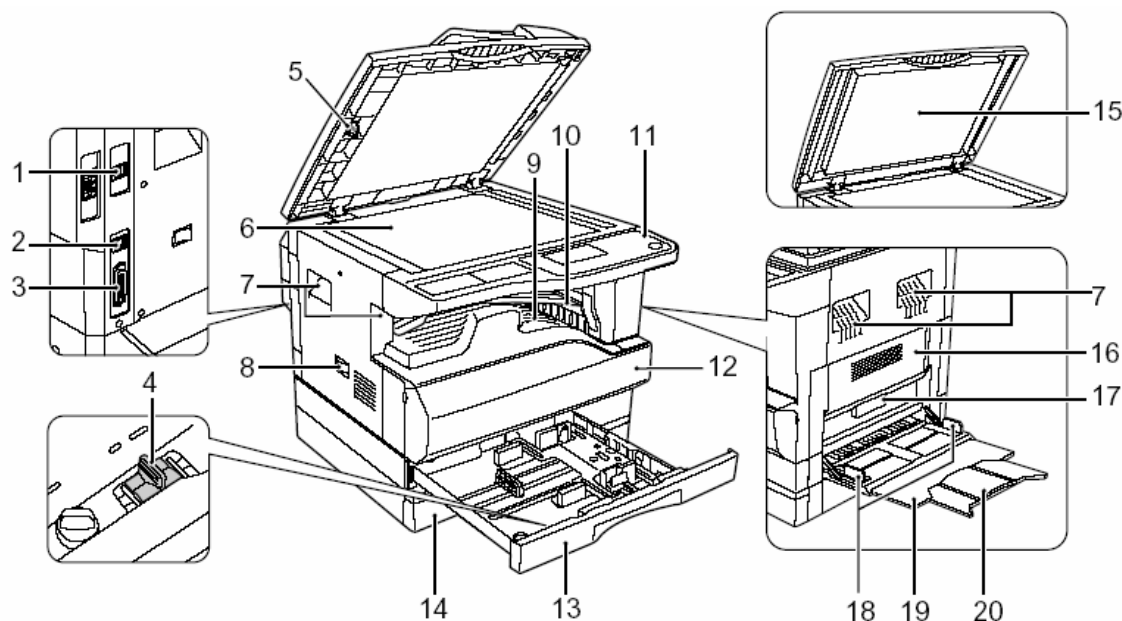
Note: The External Appearance Legend is located on the following page.

External Appearance (cont'd)

Legend:

1	USB 2.0 port (USB-2) (when the dual function board is installed)	Connect to your computer to this port to use the printer and scanner functions.
2	USB 1.1 port (USB-1)	Connect to your computer to this port to use the printer and scanner functions.
3	Parallel port	Connect to your computer to this port to use the printer function.
4	Charger cleaner	Use to clean the transfer charger.
5	Glass cleaner	Use to clean the original scanning glass.
6	Document glass	Place an original that you wish to scan face down here.
7	Handles	Use to move the machine.
8	Power switch	Press to turn the machine power on and off.
9	Center tray	Copies and printed pages are output to this tray.
10	Upper tray (when the job separator tray kit is installed)	Received faxes (when the fax option is installed) and print jobs are delivered to this tray.
11	Operation panel	Contains operation keys and indicator lights.
12	Front cover	Open to remove paper misfeeds or replace the toner cartridge.
13	Tray 1	Tray 1 can hold approximately 250 sheets of copy paper (64 g/m²).
14	Tray 2	Tray 2 can hold approximately 250 sheets of copy paper (64 g/m²).
15	Document cover (when installed)	Open to make a copy from the document glass.
16	Side cover	Open to remove misfed paper.
17	Side cover handle	Pull to open the side cover.
18	Bypass tray guides	Adjust to the width of the paper when using the bypass tray.
19	Bypass tray	Special paper (heavy paper or transparency film) can be fed from the bypass tray.
20	Bypass tray extension	Pull out when feeding large paper such as 11" x 17" and 8-1/2" x 14" (A3 and B4).

Internal Arrangement
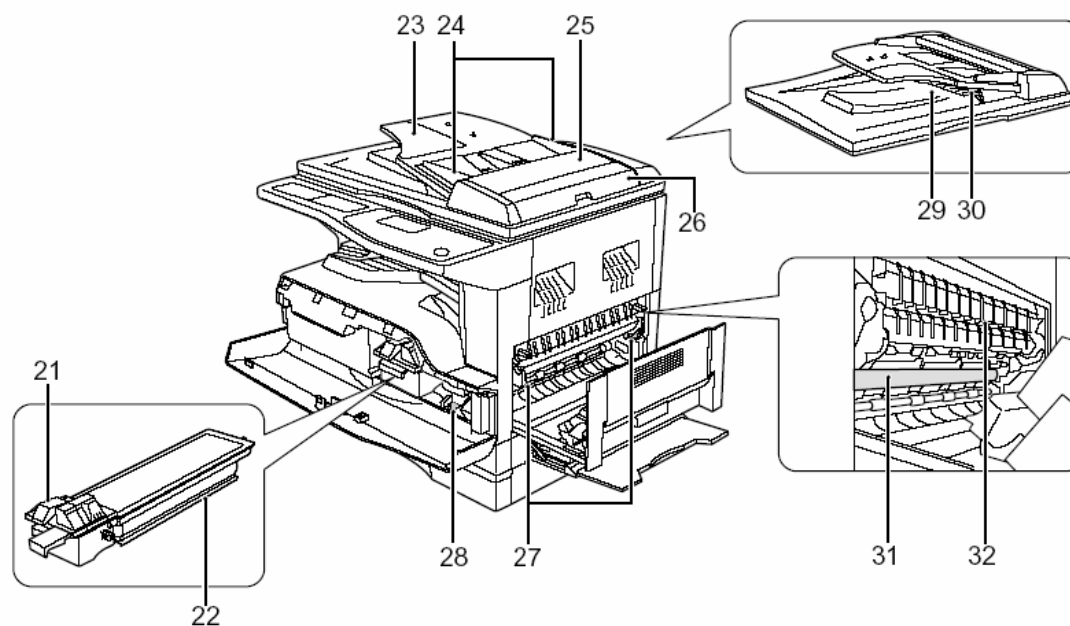
Note: The Internal Arrangement Legend is located on the following page.

Internal Arrangement (cont'd)

Legend:

21	Toner cartridge lock release lever	To replace the toner cartridge, pull out the toner cartridge while pushing on this lever.
22	Toner cartridge	Contains toner.
23	Document feeder tray (when the SPF is installed)	Place the original(s) that you wish to scan face up here. Up to 40 sheets can be placed.
24	Original guides (when the SPF is installed)	Adjust to the size of the originals.
25	Feeding roller cover (when the SPF is installed)	Open to remove misfed originals.
26	Right side cover (when the SPF is installed)	Open to remove misfed originals.
27	Fusing unit release levers	To remove the paper misfed in the fusing unit, push down on these levers and remove the paper.
28	Roller rotating knob	Rotate to remove misfed paper.
29	Exit area (when the SPF is installed)	Originals exit the machine here after copying/scanning when the SPF is used.
30	Reversing tray (when the RSPF is installed)	Pull out to remove misfed originals.
31	Photoconductive drum	Images are formed on the photoconductive drum.
32	Fusing unit paper guide	Open to remove misfed paper.

Warning: The fusing unit is hot. Do not touch the fusing unit when removing misfed paper. Doing so may cause a burn or injury.

Caution: Do not touch the photoconductive drum (green portion) when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.

Note: The model name is on the front cover of the machine.

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Operation Panel

For USA:
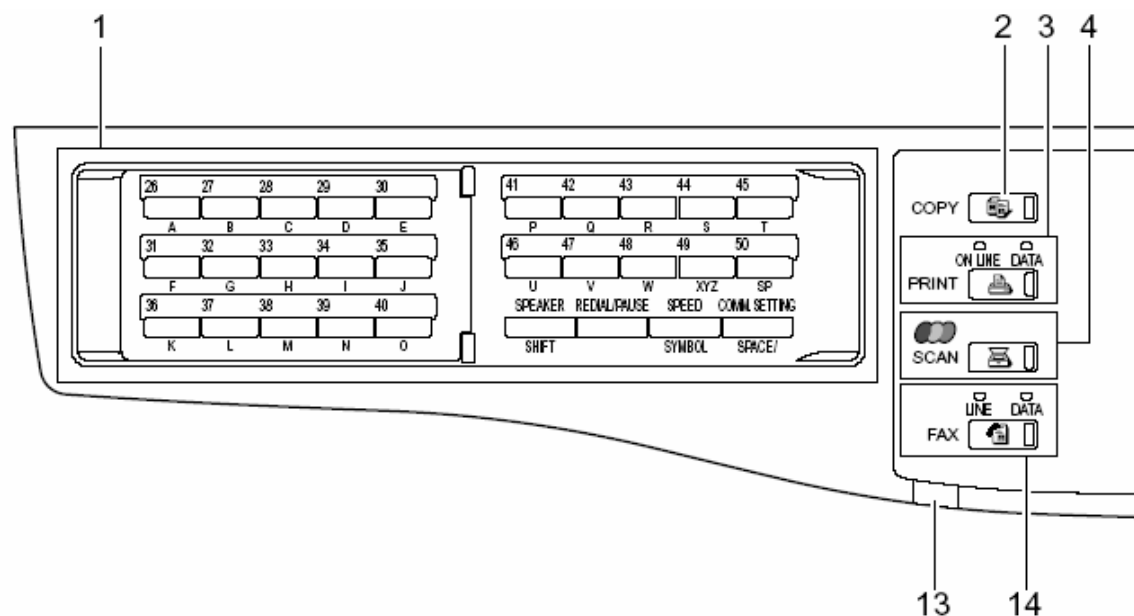
Note: The Operation Panel Legend is located on the following page.

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For USA (cont'd)

Legend:

1	Keys for fax function (when the fax option is installed)	These are used in fax mode.
2	[COPY] key/indicator	Press to select copy mode. If pressed when "Ready to copy." appears or during warm-up, the total number of sheets used appears while the key is pressed.

3	[PRINT] key/indicator	Press to select print mode.
		• ONLINE indicator
		  Print jobs can be received when this indicator is lit.
		• DATA indicator
		  This lights steadily when there is a print job in memory that has not been printed, and blinks during printing.

4	[SCAN] key/indicator	Press to select scan mode.
5	Display	Shows various messages. For more information see page 5-5.
6	[BACK] key	Press to return the display to the previous screen.
7	[FAX STATUS] key	This key is used in fax mode.
8	[OK] key	Press to enter the selected setting.
9	Copy number display	The selected number of copies appears. During copying, this shows the remaining number of copies.
10	Numeric keys	Use to select the number of copies.
11	[INTERRUPT] key/INTERRUPT indicator	Interrupts a copy run to allow an interrupt copy job to be performed.
12	[C] key	Press to clear the set number of copies or stop a copy run.
13	Information lamp (when the fax option is installed)	Information lamp blinks, when facsimile is received, or when the paper remains in the tray.
14	[FAX] key/indicator (when the fax option is installed) LINE indicator, DATA indicator	This key is used in fax mode.

Operation Panel (cont'd)

Functionality
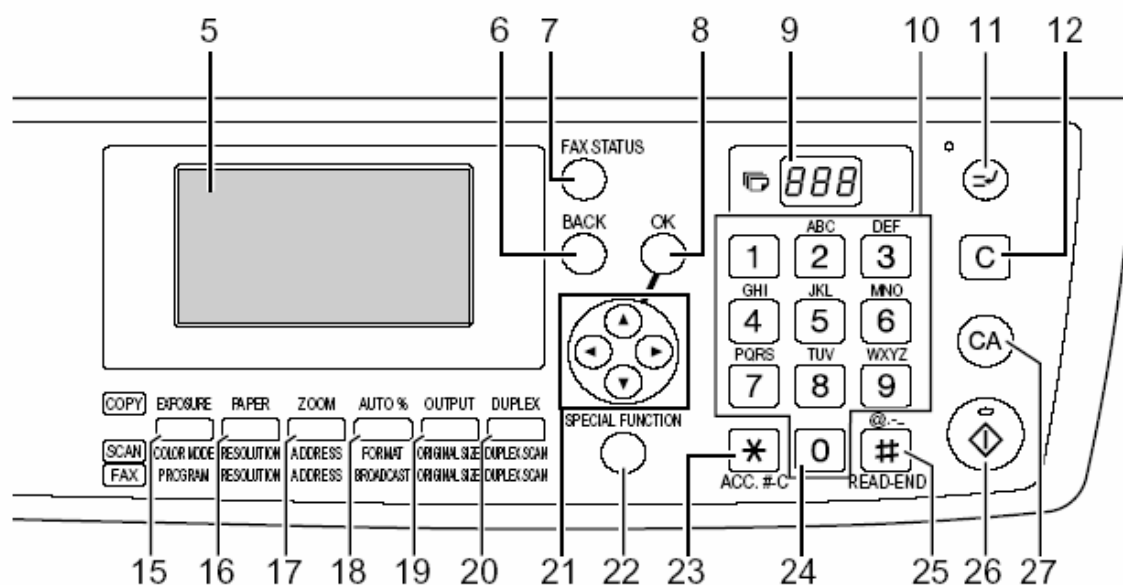
Note: The Operation Panel Functionality Legend is located on the following page.

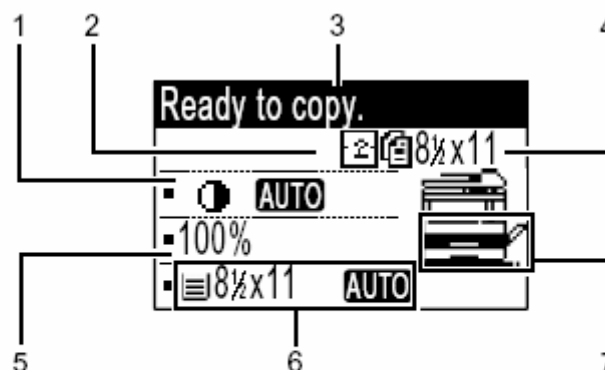**Operation Panel (cont'd)**

Display (Base Screen)

Example: Copy Mode

Ready to copy.

* The display shown is the AR-M207 (when the optional RSPF is installed) display.

|		
1	Exposure display	Indicates the selected exposure mode.
2	Special function icon display	Icons of enabled special functions will appear.
3	Message display	Messages are displayed regarding machine status and operation.
4	Original size display	The size of the placed original and the icon of the original scanning mode will appear. 📄 : One-sided scanning in the SPF. 📄 : Scanning on the document glass 📄 : Two-sided scanning in the RSPF.
5	Copy ratio display	Displays the copy ratio for reduction or enlargement.
6	Paper size display	Displays the selected paper size. When "AUTO" appears, the most suitable size of paper is automatically selected.
7	Paper tray display	The selected paper tray is highlighted.

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Operation Panel (cont'd)

Icons Appearing in the Special Function Icon Display

Icon	Description	Icon	Description
1▸2	1-sided to 2-sided copy	▮	Center erase copy*
2▸2	2-sided to 2-sided copy	▥	Edge + Center erase*
2▸1	2-sided to 1-sided copy	▣2	2 in 1 copy*
	Sort function*	▣4	4 in 1 copy*
◻	Margin shift copy*		Dual page copy
◼	Erase copy*	▣C	Card shot*

* These only appear when the dual function board is installed.

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Simulations

Entering the Simulation Mode

Perform the following procedure to enter the simulation mode:

key → * key → **C** key → * key →
Main code → Start key → Sub code → Start key

Canceling the Simulation Mode

To cancel the simulation mode, press the CLEAR ALL key.

Important: After canceling the simulation mode, be sure to turn the power OFF/ON and check the operation.

When the interruption key is pressed, the process is interrupted and the screen returns to the sub code entering display.

Note 1: If the machine is terminated by a jam error or paper empty error during copying in the adjustment by the simulation, recopying is required.
Note 2: The values in the simulation columns are not default values but sample values.

List of Simulations

Main code	Sub code	Contents
01	01	Mirror scanning operation
	02	Mirror home position sensor (MHPS) status display
02	01	Single paper feeder (SPF) aging *2
	02	SPF sensor status display *2
	03	SPF motor operation check *2
	08	SPF paper feed solenoid operation check *2
	09	RSPF reverse solenoid operation check *2 *3
	10	RSPF paper exit gate solenoid operation check *2 *3
	11	SPF PS release solenoid operation check *2
03	02	Shifter/job separator sensor status display
	03	Shifter operation check
	04	Job separator operation check *4
	11	Shifter home position check
05	01	Operation panel display check
	02	Fusing lamp and cooling fan operation check
	03	Copy lamp lighting check
06	01	Paper feed/transport solenoid operation check
	02	Resist roller solenoid (RRS) operation check
	10	Main cassette semicircular roller cleaning
07	01	Warm-up display and aging with jam
	06	Intermittent aging
	08	Shifting with warm-up display

List of Simulations (cont'd)

06	01	Developing bias output
	02	Main charger output (Grid = HIGH)
	03	Main charger output (Grid = LOW)
	06	Transfer charger output
09	01	Duplex motor forward rotation check *6
	02	Duplex motor reverse rotation check *6
	04	Duplex motor RPM adjustment *6
	05	Duplex motor switchback time adjustment
10	-	Toner motor operation
14	-	Trouble cancel (except for U2)
16	-	U2 trouble cancel
20	01	Maintenance counter clear
21	01	Maintenance cycle setting
22	01	Counters display
	03	Jam memory display
	04	Jam total counter display
	07	Key operator code display
	09	Paper feed counter display
	13	CRUM destination display *5
	14	P-ROM version display
	15	Trouble memory display
	22	SPF jam counter display *2
24	01	Jam total counter clear
	02	Trouble memory clear
	04	SPF counter clear *2
	05	Duplex print counter clear *6
	06	Paper feed counter clear
	07	Drum counter clear
	08	Copy counter clear
	09	Printer counter clear
	13	Scanner counter clear
	14	SPF jam total counter clear *2
	15	Scanner mode counter clear

Main code	Sub code	Contents
25	01	Main motor operation check (Cooling fan motor rotation check)
	10	Polygon motor operation check
26	01	Job separator setting
	02	Size setting
	03	Auditor setting
	04	Copier duplex setting
	05	Count mode setting
	06	Destination setting
	07	Machine condition check
	18	Toner save mode setting
	20	Job separator paper exit mode setting
	22	Language setting clear
	30	CE mark conformity control ON/OFF
	31	Auditor mode exclusive setup
	36	Cancel of stop at maintenance life over
	37	Cancel of stop at developer life over
	39	Memory capacity check
	42	Transfer ON/OFF timing control setting
	43	Side void amount setting
	51	Copy temporary stop function setting
	54	LCD contrast PWM duty setting
	60	FAX mode key Enable/Disable setting
	73	Toner save setting display/non-display
	74	Total counter display change setting
30	01	Paper sensor status display
41	01	Document size detection photo sensor check
	02	Document size detection photo sensor detection level adjustment
	03	Document size detection photo sensor light receiving/detection level check
	04	Detection level adjustment when the document size is settled(15degrees - 20degrees)
42	01	Developing counter clear

List of Simulations (cont'd)

43	01	Fusing temperature setting (Normal copy)
	12	Standby mode fusing fan rotation setting
	13	Fusing paper interval control allow/inhibit setting
44	34	Transfer current setting
	40	Setting of rotation time before toner supply
46	01	Copy density adjustment (300dpi)
	02	Copy density adjustment (600dpi)
	09	Copy exposure level adjustment, individual setting (Text) 300dpi
	10	Copy exposure level adjustment, individual setting (Text) 600dpi
	11	Copy exposure level adjustment, individual setting (Photo) 600dpi
	16	Image contrast adjustment (300dpi)
	19	Exposure mode setting (Gamma table setting/AE operation mode setting/ Photo image process setting)
	20	SPF exposure correction *2
	29	Image contrast adjustment (600dpi)
	30	AE limit setting
	31	Image sharpness adjustment
48	01	Main/sub scanning magnification ratio adjustment
	05	SPF/RSPF mode sub scanning magnification ratio adjustment in copying *2
49	01	Flash ROM program writing mode

Main code	Sub code	Contents
50	01	Image lead edge adjustment
	06	Copy lead edge position adjustment (SPF/RSPF) *2
	10	Paper off-center adjustment
	12	Document off-center adjustment
	18	Memory reverse position adjustment in duplex copy *1
	19	Rear edge void adjustment in duplex copy *6
51	02	Resist amount adjustment
53	08	SPF scanning position automatic adjustment *2
	10	SPF scanning position setting
61	03	HSYNC output check
63	01	Shading check
	07	SPF automatic correction *2
64	01	Self print
65	10	Key reception time setting display/non-display setting
	11	Info lamp setting
67	50	USB reception speed adjustment

<Execution inhibit conditions>
*1) Execution is inhibited when the duplex setup is OFF and other than RSPF is set.
*2) Execution is inhibited when OC.
*3) Execution is inhibited when SPF. (Not RSPF)
*4) Execution is inhibited when the job separator is not installed.
*5) Execution is inhibited when the model is not provided with the CRUM.
*6) Execution is inhibited when the duplex setup is OFF.

Trouble Code List

Main code	Sub code	Content
E1	00	IMC PWB communication trouble
	10	IMC PWB trouble
	11	IMC ASIC error
	13	IMC PWB flash ROM error
	16	IMC PWB DIMM memory read/write check error
	81	Interface error in communication with IMC PWB (Parity)
	82	Interface error in communication with IMC PWB (Overrun)
	84	Interface error in communication with IMC PWB (Framing)
E7	01	Duplex model memory error
	02	LSU trouble
	10	Shading trouble (Black correction)
	11	Shading trouble (White correction)
	12	Shading trouble
	16	Abnormal laser output
F2	04	Improper cartridge (destination error, life cycle error)
F5	02	Copy lamp lighting abnormality
F6	00	FAX board communication trouble
	10	FAX board trouble
	80	FAX board communication trouble (Protocol)
	81	FAX board communication trouble (Parity)
	82	FAX board communication trouble (Overrun)
	84	FAX board communication trouble (Framing)
	88	FAX board communication trouble (Time out)
	99	Machine - FAX language error
F9	00	AR-NB3 communication trouble

Main code	Sub code	Content
H2	00	Thermistor open
H3	00	Heat roller high temperature detection
H4	00	Heat roller low temperature detection
H5	01	5-time continuous detections of POUT not-reached jam
L1	00	Scanner feed trouble
L3	00	Scanner return trouble
L4	01	Main motor lock detection
	11	Shifter motor trouble
L6	10	Polygon motor lock detection
L8	01	No full wave signal
U1	03	FAX board battery error
U2	04	EEPROM read/write error (serial communication error)
	11	Counter check sum error (EEPROM)
	40	CRUM chip communication error
U9	00	Panel board communication trouble
	80	Panel board communication trouble (Protocol)
	81	Panel board communication trouble (Parity)
	82	Panel board communication trouble (Overrun)
	84	Panel board communication trouble (Framing)
	88	Panel board communication trouble (Time out)
	99	Panel language error

Maintenance Table

X:Check(Clean, adjust, or replace when required.) O:Clean ▲:Replace △:Adjust ★:Lubricate

Unit name	Part name		When calling	50K	100K	150K
Drum peripheral	OPC drum		-	▲	▲	▲
	Cleaning blade		-	▲	▲	▲
	Side seal F/R		X	X	X	X
	MC unit		X	▲	▲	▲
	(MC charging electrode)		-	(▲)	(▲)	(▲)
	(MC grid)		-	(▲)	(▲)	(▲)
	(MC case)		-	(▲)	(▲)	(▲)
	Transfer wire		O	O	O	O
	Transfer paper guide		O	O	O	O
	MC guide sheet (Cleaning blade attached)		-	▲	▲	▲
	Drum fixing plate B		X	▲	▲	▲
	Process frame unit		X	X	X	▲
	Discharge holder		O	O	O	O
Developing section	Developer		-	▲	▲	▲
	DV seal		-	X	X	▲
	DV under seal		-	-	-	▲
	DV side seal		-	X	X	▲
	Side Mylar		-	-	-	▲
Optical section	Lamp unit	Reflector	O	O	O	O
		Mirror	O	O	O	O
	No.2/3 mirror unit	Mirror	O	O	O	O
		Pulley	X	X	X	X
	CCD peripheral	Lens	O	O	O	O
	Glass	Table glass	O	O	O	O
		White Plate	O	O	O	O
	Other	Drive wire	X	X	X	X
		Rail	X ★	X ★	X ★	X ★
		Document cover	O	O	O	O
		Document size sensor	O	O	O	O

Maintenance Table (cont'd)

LSU		Dust-proof glass	O	O	O	O
Paper feed section	Multi paper feed section	Take-up roller(manual / SPF)	O	O	O	O
		Paper feed roller	O	O	O	O
		Spring clutch	O ★	O ★	O ★	O ★
Paper transport section		PS roller	O	O	O	O
		Transport (paper exit) rollers	O	O	O	O
		Spring clutch	O ★	O ★	O ★	O ★
Fusing section		Upper heat roller	O	O	O	▲
		Pressure roller	O	O	O	O
		Pressure roller bearing	X	X	X	O ★
		Upper separation pawl	X	X	X	O
		Lower separation pawl	X	X	X	O
Drive section		Gears	X ★	X ★	X ★	X ★
		Belts	X	X	X	O
Paper exit section		Ozone filter*1	X	X	X	X

*1:Recommendable replacement time:50K(Letter,5%print)

Maintenance Display System

Toner	Life,	16K	
	Remaining quantity check *1	a. Press and hold the density adjustment LIGHT key for more than 5 sec, and the machine will enter the user program mode. b. Press and hold the "%" key for more than 5 sec, and the remaining quantity will be displayed on the copy quantity display in one of the following levels: (Remaining quantity display levels: 100%, 75%, 50%, 25%, 10%, LO) c. Press the density adjustment LIGHT key to cancel.	
	Remaining quantity	NEAR EMPTY About 10%	EMPTY
	Message and icon on the LCD	ON	Flash
	Machine	Operation allowed	Stop
Developer	Life	50K	
	Message and icon on the LCD	ON at 50K of the developer count	
	Machine	Selection is available between Not Stop and Stop by Service Simulation (SIM 26-37) Setup. (If Stop is selected, the LED will flash and stop at 50K.) * Default: Not Stop * Clear: SIM 42-1	
Maintenance	Message and icon on the LCD	Selection is available among 50K, 25K, 10K, 7.5K, 5K, and free (no lighting) with SIM 21-1. * Default: 50K * Clear: SIM 20-1	
	Machine	Not stop	

*1: Installation of a new toner cartridge allows to display the remaining quantity.

Key Operator Program

Custom Setting

KEY OPERATOR PROGRAM			Set value(Default)	Remark
KEY OPERATOR NUMBER CHANGE	KEY OPERATOR NUMBER CHANGE		00000	
ACCOUNT CONTROL	AUDITING MODE	Copy, Printer and Scanner		
	TOTAL/ACCOUNT			
	RESET ACCOUNT	Reset 1 Account, Reset All Account		
	ACCOUNT NUMBER CONTROL	Enter, Delete, Change Account Number		
	ACCOUNT LIMIT	Single Account Limit, All Account Limit		
	ACCOUNT NUMBER SECURITY		No (No warning)	
	CANCEL JOBS OF INVALID ACCOUNT		Cancel (Not inhibited)	
DEVICE CONTROL	WAITING COPY LAMP SETTING		ON*/OFF	
	OFFSET FUNCTION	UPPER TRAY, CENTER TRAY	Enable (The function works.)	
	MEMORY FOR PRINTER		30, 40, 50*, 60, 70%	
	USB2.0 MODE		Full speed mode*/High speed mode	
	RETURN FROM COPY MODE TIMING		0, 10, 30*, 60sec	
OPERATION SETTINGS	AUTO CLEAR		0, 10, 20, 60*, 90, 120sec	
	DISABLE DISPLAY TIMEOUT		Unchecked	
	LANGUAGE SETTING			
	MESSAGE TIME		Short (3sec), Normal (6sec)*, Long (9sec)	
	KEY TOUCH SOUND		Low*, High, Off	
	KEY TOUCH SOUND AT INITIAL POINT		Off (Check box unchecked)	
	KEY PRESS TIME		Minimum* 0.5, 1.0, 1.5, 2.0sec	
	DISABLE AUTO KEY REPEAT		OFF (The auto repeat functions.)	
	DISABLE PAPER SIZE SET		OFF (Paper size setting can be made.)	

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Quick Reference Guide: AR-M207, M165, M162

Key Operator Program (cont'd)

Key Operator Program

Custom Setting (cont'd)

ENERGY SAVE	AUTO POWER SHUT-OFF		On (Check box is checked)	
	AUTO POWER SHUT-OFF TIMER		5", 30, 60, 120, 240min	
	PREHEAT MODE		1", 5, 30, 60, 120, 240min	
	TONER SAVE MODE			excluding U.K
NETWORK SETTING	DHCP enable		ON (Automatic acquisition of IP address)	when the AR-NB3 is installed
	IP address enable			
	TCP/IP enable		ON (Protocol enable)	
	NetWare enable		ON (Protocol enable)	
	EtherTalk enable		ON (Protocol enable)	
	NetBEUI enable		ON (Protocol enable)	
COPY SETTING	EXPOSURE ADJUST	Original glass, Document feeder	Level 1, 2, 3", 4, 5	
	MARGIN DEFAULT		AB system: 0, 5, 10", 15, 20mm Inch system: 0, 1/4, 1/2", 3/4, 1inch	
	ERASE ADJUST		AB system: 0, 5, 10", 15, 20mm Inch system: 0, 1/4, 1/2", 3/4, 1inch	
	CARD SHOT DEFAULT		AB system Y: 54mm, X: 86mm Inch system Y: 2 1/8inch, X: 3 3/8inch	
	DEFAULT TRAY SET		Tray 1", 2, 3, 4, BYPASS TRAY	
	DEFAULT EXPOSURE		Auto", TEXT, PHOTO	
	STREAM FEEDING		Check box unchecked	
	ROTATION COPY		Check box checked	
	SORT AUTO SELECT		No sort, Sort"	
	RESOLUTION IN AUTO/TEXT MODE		300", 600dpi	
	PHOTO MODE DEFAULT		Pattern 1", 2	
	LIMIT OF COPIES		99, 999"copies	
	DISABLE AUTO PAPER SELECTION		Check box unchecked	
	DISABLE 2-SIDED COPY		Check box unchecked	

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Flash Rom Version Up Procedure

Preparation

USB Joint Maintenance Program Installation

The driver is installed by plug and play.

Installation Procedure on Windows XP

1. Machine side:

    Executable by performing the Service Simulation No. 49-01 (Flash ROM program-writing mode).

Note: The words "Download Mode" appear on the operation panel to denote the download mode status.

2. Connect the machine and the PC with a USB cable. (Be sure to connect the USB cable to the main unit side. Connection to the optional dual function board cannot execute this function.)
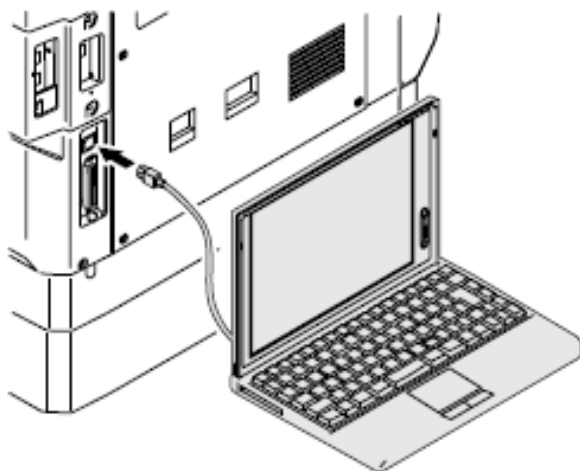
3. Check that the following display is shown. Select **"Install from a list or the specific location"** and press the [**Next**] button.

Flash Rom Version Up Procedure

Installation Procedure on Windows XP (cont'd)

4. Select "**Include this location in the search**". If the retrieval area does not include the folder that includes the maintenance tool driver (**Mainte.inf**), select the [**Browse**] button.

    If the folder path is properly shown, press the [**Next**] button to go to procedure 7.

5. **Select** the folder which includes the maintenance tool driver (**Mainte.inf**), and press the [**OK**] button when the driver is included in the "**C:\Maintenance Tool\Driver2kxp**" folder.
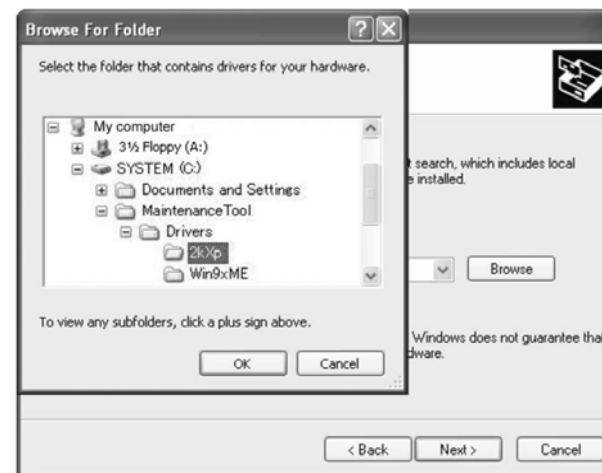
Flash Rom Version Up Procedure

Driver Installation Procedure (cont'd)

6.   Check that the path to the folder which includes the maintenance tool driver (**Mainte.inf**) is shown, and press the [**Next**] button.

7.   Check that the following display is shown. Press the [**Continue Anyway**] button.

Flash Rom Version Up Procedure

Driver Installation Procedure (cont'd)

8.   When installation is completed, the following display is shown. Press the [**Finish**] button.

┌───┐
│ **The installation procedure (on Windows XP) is completed** │
│ **with the above operation.** │
└───┘

Installation Procedure on Windows 2000

1.   Machine side:

Executable by performing the Service Simulation No. 49-01 (Flash ROM program-writing mode).

Note: The words "Download Mode" appear on the operation panel to denote the download mode status.

2.   Connect the machine and the PC with a USB cable. (Be sure to connect the USB cable to the main unit side. Connection to the optional dual function board cannot execute this function.)

3.   Check that the new hardware search Wizard is shown. Press the [**Next**] button.

Flash Rom Version Up Procedure

Installation Procedure on Windows 2000

4. Select "**Search for a suitable driver for my device**" and then press the [**Next**] button.

5. Select "**Specify a location"** and press the [**Next**] button.

6. If the reference position is not the folder that includes the maintenance tool driver (**Mainte.inf**) select the [**Browse**] button. If the reference position is the folder which includes the maintenance tool driver, press the [**OK**] button to go to procedure (9).

Flash Rom Version Up Procedure

Installation Procedure on Windows 2000 (cont'd)

7. Specify the folder that contains the maintenance tool driver (**Mainte.inf**), and press the [**Open**] button.
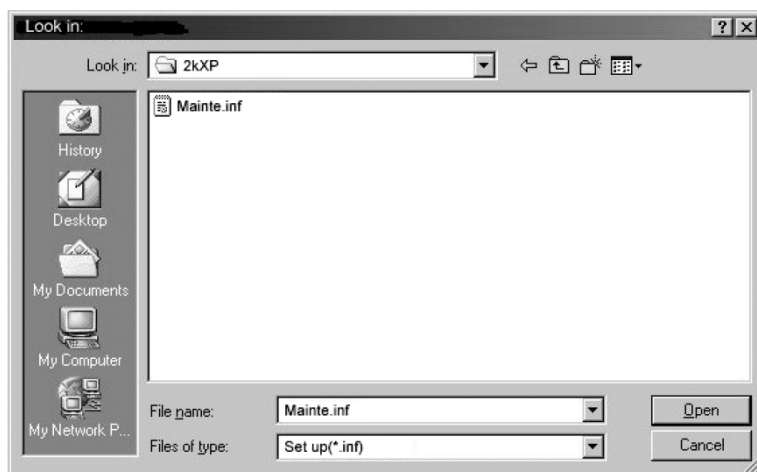
8. Check to confirm that the path to the folder which includes the maintenance tool driver (**Mainte.inf**) is displayed, and press the [**OK**] button.

   (Supposing that the maintenance tool driver is included in the folder of "**C:\Maintenance Tool\Drivers\2kXp**".
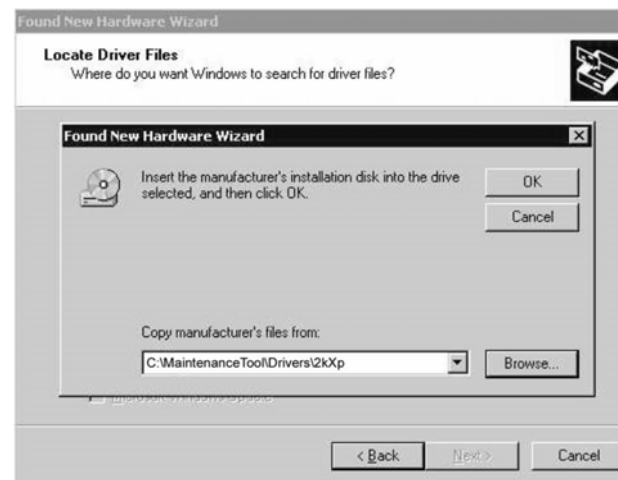
Flash Rom Version Up Procedure

Installation Procedure on Windows 2000 (cont'd)

9.   Press the [**Next**] button, and installation is started.

10.   When installation is completed, the following display is shown. Press the [**Finish**] button.

11.   When the indication is displayed to reboot the PC, press the [**Yes**] button and boot the PC.

> **The installation procedure (on Windows 2000) is completed with the above operation.**

Flash Rom Version Up Procedure

Download Procedure

1. <u>Main Body Side</u>:

    Executable by performing the Service Simulation No. 49-01 (Flash ROM program-writing mode).

Note: The words "Download Mode" appear on the operation panel to denote the download mode status.

2. Connect the machine and the PC with a USB cable. (Be sure to connect the USB cable to the main unit side. Connection to the optional dual function board cannot execute this function.)

3. <u>PC Side</u>:

    Boot "**Maintenance.exe**" and select [**AR-M207/M162/M165 Series**] on the model selection menu.

AR-M207/M162/M165 series

Select(S)   Cancel

(Sample display)

SHARP.
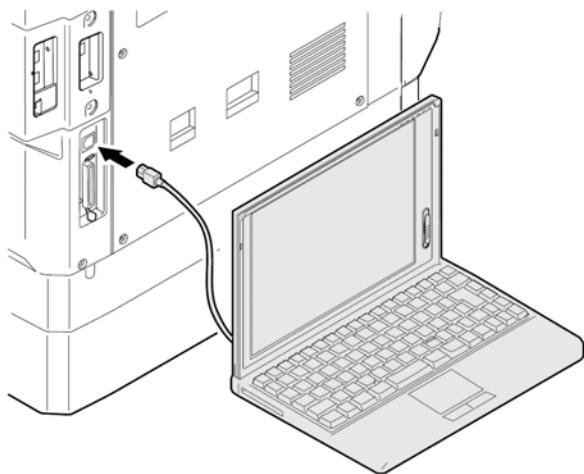
Flash Rom Version Up Procedure

Download Procedure (cont'd)

4. PC Side:

Check to confirm that "**Simulation Command List**" is displayed on the integrated maintenance program.
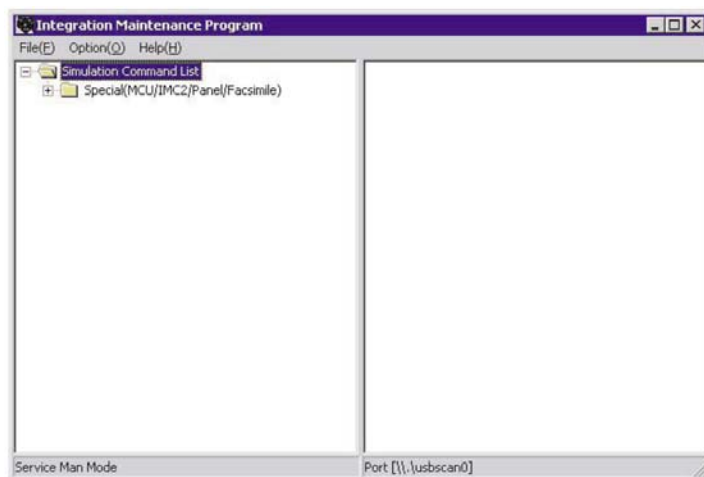
5. PC Side:

If "**The copier is off.**" is displayed on the lower left side after booting the integrated maintenance program, select [**File**] and then [**Reconnect**] on the menu bar.
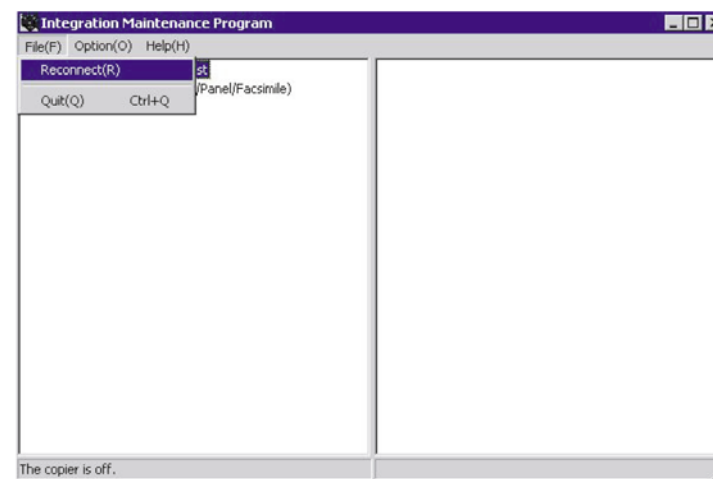
Flash Rom Version Up Procedure

Download Procedure (cont'd)

6. <u>PC Side</u>:

    Check to confirm that the tree is displayed on [**Special (MCU/IMC2/Panel/Facsimile)**] of the integrated maintenance program. If the tree is not displayed, check that the USB is properly connected and select [**Reconnect**] again as in the previous procedure (5).
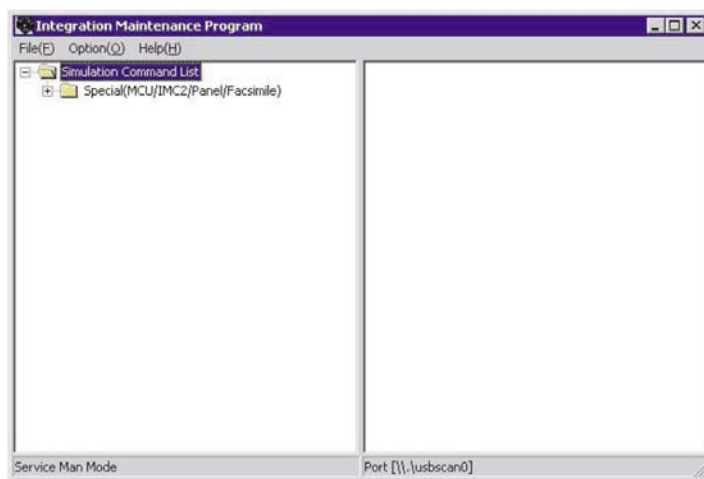
7. <u>PC Side</u>:

    Double-click [**Special (MCU/IMC2/Panel/Facsimile)**] on the main tree items to extend the sub-tree items, and select [**DWL Data Area Download**].
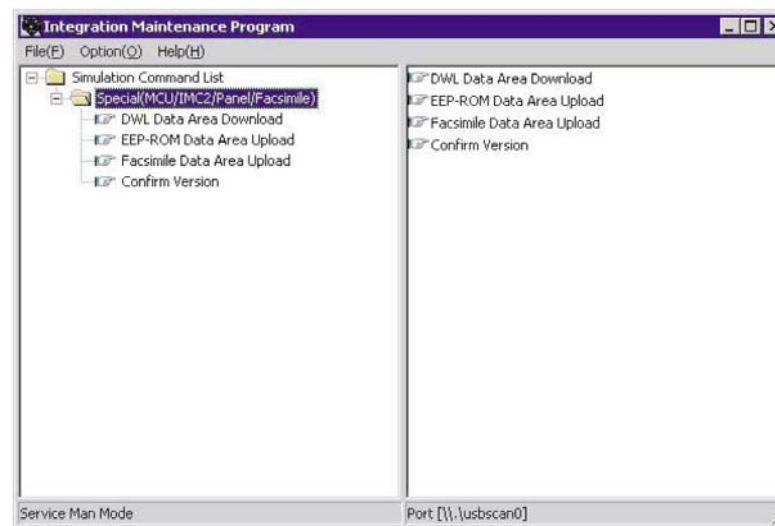
Flash Rom Version Up Procedure

Download Procedure (cont'd)

8.   PC Side:

Specify the download file (*.dwl).
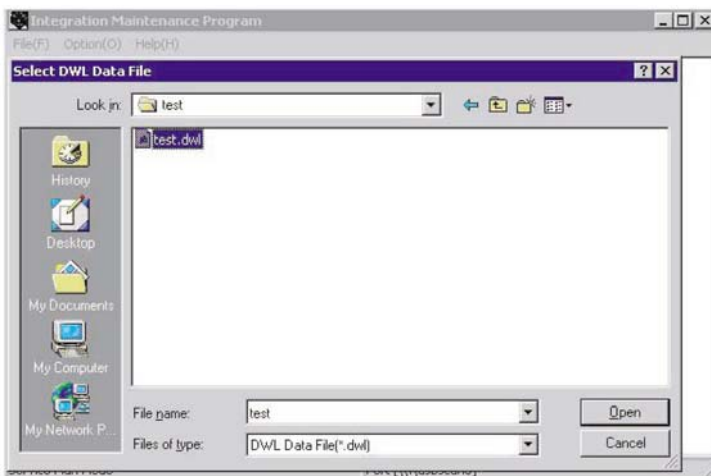
9.   PC Side:

When the DWL data file is specified, the DWL data file is transferred from the PC to the machine. Downloading proceeds automatically.
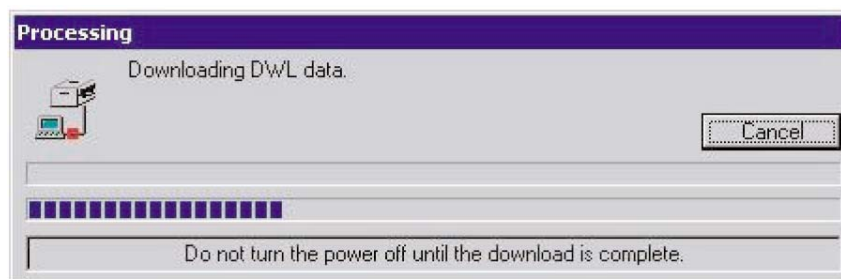
10.   PC Side:

When the message below is displayed, download is completed. The completion message reads: **Download is completed. Do not turn the copier power off until "*Processing finished. Turn off the power."* is displayed on the copier.**
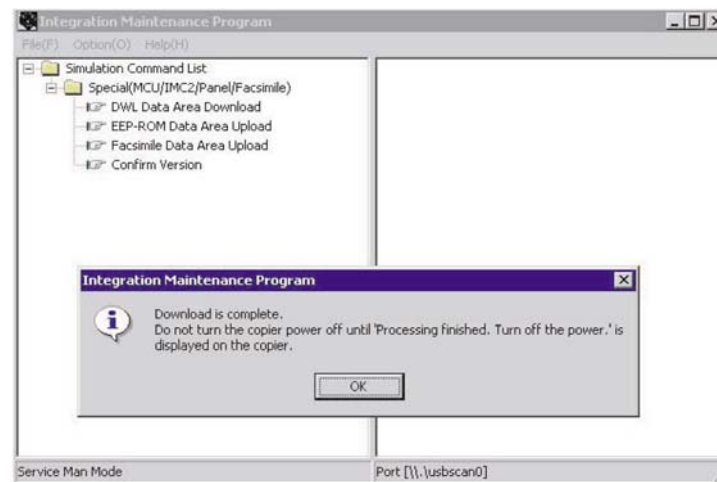
Flash Rom Version Up Procedure

Download Procedure (cont'd)

11. Main Body Side:

Wait until the words "**Processing finished. Turn OFF the power.**" appears on the operation panel.

The appearance of "**Processing finished. Turn OFF the power.**" indicates the completion of the download (writing to ROM).

Turn the power OFF and remove the USB cable.

12. Terminate the program, and turn ON the power of the main body.

Note: To make a second connection with another machine, select the [**File**] .and [**Reconnect**] in the menu bar on the maintenance program at the time the USB is being reconnected.

Repeat the previous steps (7) through (12)
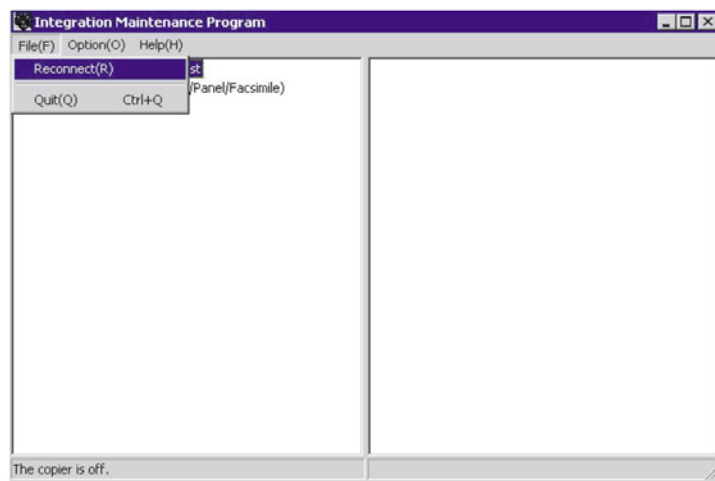
Failed Downloads

The following actions will result in a failed download. Therefore ,do not:

•   Switch OFF the main body of AR-M207/M162/M165, or

•   Disconnect the download cable (USB cable)

Corrective Actions for Failed Downloads

Turn the power OFF and ON again.

1. If "**Download mode.**" is displayed on the operation panel, perform downloading again.

2.   If "**Download mode.**" is not displayed on the operation panel, turn OFF the power and press and hold the 4 key and the CA key while turning ON the power. If "**Download mode.**" is displayed on the operation panel LED of the machine, perform downloading again.

3. If "**Download mode.**" is still not displayed, replace the MCU/Panel/IMC2/Fax.

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Flash Rom Version Up Procedure

Version Confirming Procedure

1. Machine Side:

   Executable by performing the Service Simulation No. 49-01 (Flash ROM program-writing mode).

   Note: The words "Download Mode" appear on the operation panel to denote the download mode status.

2. Connect the machine and the PC with a USB cable. (Be sure to connect the USB cable to the main unit side. Connection to the optional dual function board cannot execute this function.

3. PC Side:

   Boot "**Maintenance.exe**" and select [AR-M207/M162/M165 Series] on the model selection menu.
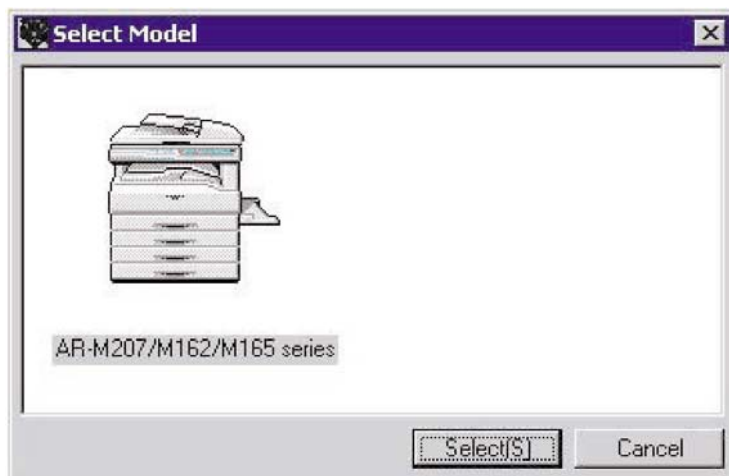
4. PC Side:

   Check to confirm that "**Simulation Command List**" tree is displayed on the integrated maintenance program.
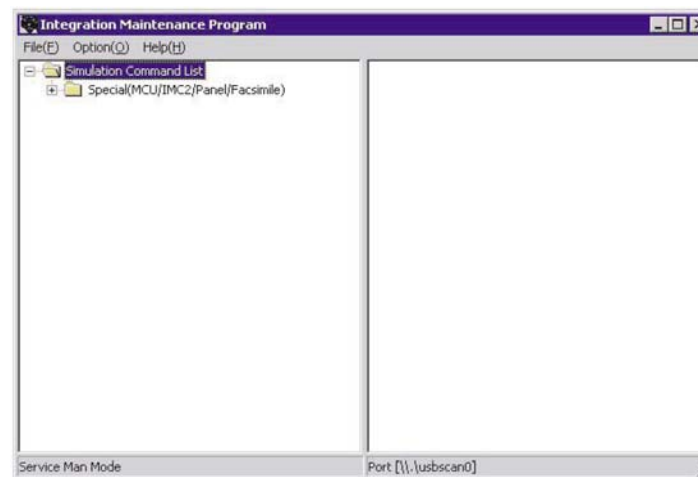
Flash Rom Version Up Procedure

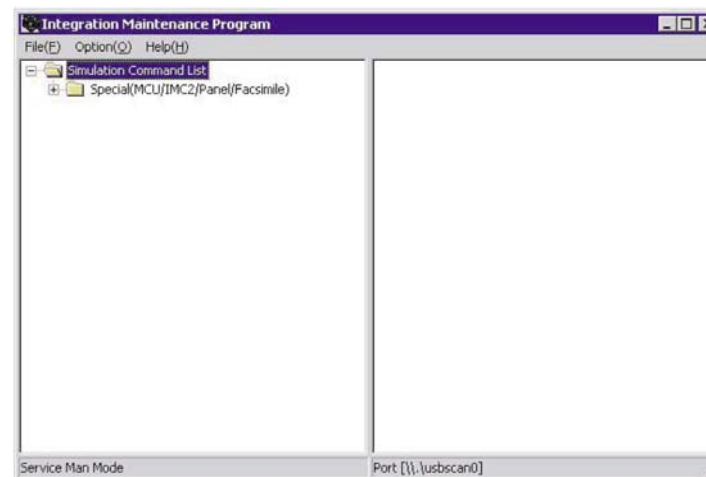**Version Confirming Procedure**

5. <u>PC Side</u>:

If "**The Copier is Off.**" is displayed on the left lower side after booting the integrated maintenance program, select [**File**] and then [**Reconnect**] on the menu bar.
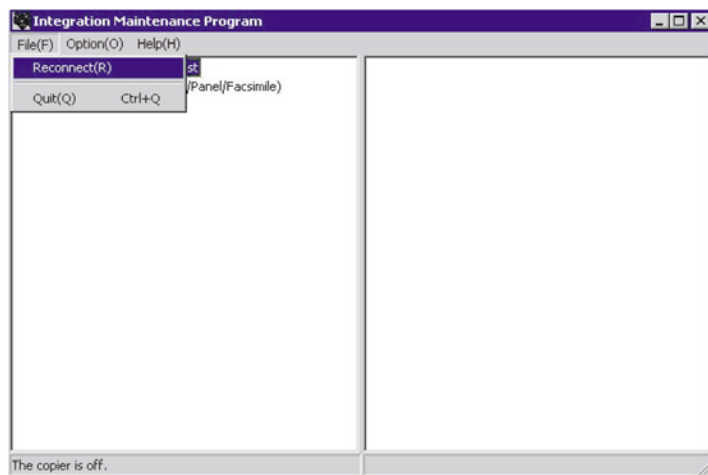
6. <u>PC Side</u>:

Check to confirm that the tree is displayed on [**Special (MCU/IMC2/Panel/Facsimile)**] of the integrated maintenance program. If the tree is not displayed, check that the USB is properly connected and select [**Reconnect**] again in the previous procedure of (5).
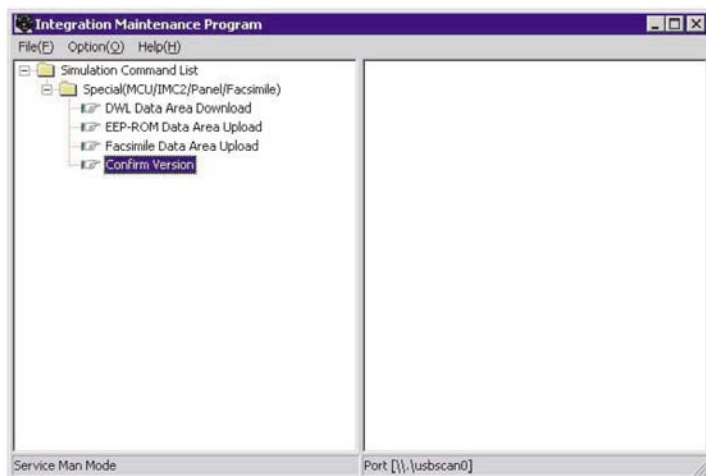

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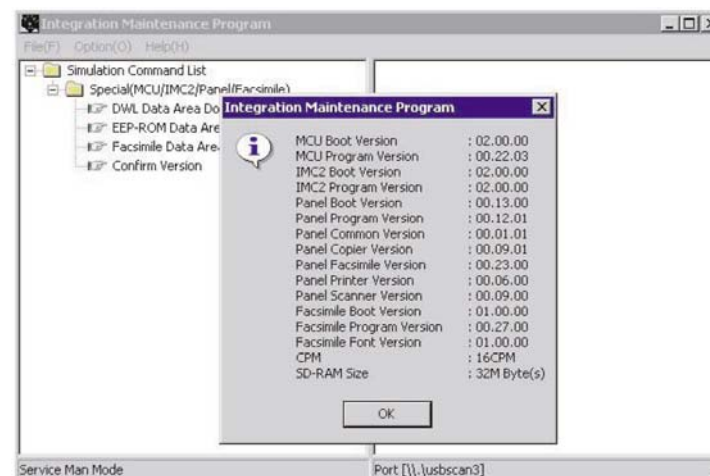**Flash Rom Version Up Procedure**

Version Confirming Procedure

7.   PC Side:

Double-click [**Special (MCU/IMC2/Panel/Facsimile)**] on the main tree items to extend the sub-tree items, and select [**Confirm version**].

8.   PC Side:

Check to confirm that the display below is indicated.

Verification Procedures for Version Confirming

Version confirming is completed with the following procedures:

- In version confirming, "****.**.****" means that the connection is not made with the MCU PWB or that download is not performed. (The figure in Step (8) above indicates that the FAX PWB is not installed.)

- When the download is completed, the version number is displayed such as the MCU boot version and the MCU program version.

- The CPM and the SD-RAM size are displayed when the MCU/Panel PWB is installed and the boot section operates normally.